2023

COMMERCE

Paper : CC-303

(Financial Markets and Financial Engineering)

Full Marks : 40

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

Module - I

(Financial Markets)

Answer *any two* questions.

1. (a) Distinguish between direct finance and indirect finance.

   (b) X Company Ltd., a listed company, offers a FPO of equity shares under 'Pure Auction Method' where face value of the equity shares is ₹ 10 and floor price is ₹ 800 decided by the BRLMs. In this situation, (i) is there any scope to decide the price band and the cap of the price band? and (ii) at what price can the allotment of equity shares be made among RIIs, NIIs and QIBs?– Justify your answer with reference to the SEBI (ICDR) Regulations, 2018. 4+6

2. (a) Explain Money Market Mutual Funds.

   (b) The following are the information related to price-based auction of an existing 364 days T-Bill 8.24% T-Bill 2023:

   Maturity Date was August 2, 2023. Coupon rate was 8.24% and notified amount was ₹ 5,000 crore. Auction date was August 4, 2022 and Auction settlement date was August 5, 2022 [settlement was done under T + 1 cycle].

Bidders	Price of Bid (₹)	Amount of Bid (₹ in Crores)
A	100.75	1,500
B	100.73	1,000
C	100.71	1,250
D	100.70	750
E	100.69	500
F	100.69	750
G	100.65	500
H	100.62	500

Please Turn Over

You are required to find out the following :

   (i) cut-off price under Uniform Price Based;

   (ii) cut-off price under Multiple Price Based; and

   (iii) allotment of T-Bill among the successful bidders.   3+(2+2+3)

3. (a) Discuss the allotment process of Book Building Issues under the QIBs Route with reference to the SEBI (ICDR) Regulations, 2018.

   (b) Z Company Ltd. desires to make a FPO of 1,00,000 shares in the primary market with a Floor Price of ₹ 400. Five investors other than RIIs and NIIs Bidders (A, B, C, D and E), have submitted their bids (i.e. Price and number of shares applied for) as under :

Bidders	No. of Shares applied for (bid)	Bid Price per Share (₹)
A	15,000	470
E	20,000	430
C	25,000	460
B	30,000	465
D	35,000	450

Using French Auction Method, you as a BRLM of Z Company Ltd. are suggested to determine the following with appropriate justifications :

   (i) Cut-off price of FPO of Z Company Ltd.;

   (ii) Number of shares allotment among successful bidders;

   (iii) Total amount of money that Z Company Ltd. may obtain from the successful bidders.

                                                         3+(2+2+3)

4. (a) Discuss the short selling and securities lending and borrowing scheme in the stock market.

   (b) The following information are obtained with regard to two shares, Share-X and Share-Y, traded at BSE on 10th March, 2023 :

Share - X

Date	Time	Price (₹)	No. of shares traded
10th March, 2023	14:45:10	385.60	550
10th March, 2023	14:55:35	382.78	1,575
10th March, 2023	15:00:20	380.99	1,514
10th March, 2023	15:01:30	381.79	1,625
10th March, 2023	15:05:40	380.38	1,025
10th March, 2023	15:10:20	381.51	1,390
10th March, 2023	15:20:25	381.42	800
10th March, 2023	15:22:20	384.07	600
10th March, 2023	15:25:55	383.74	1,200

Share - Y

Date	Time	Price (₹)	No. of shares traded
10th March, 2023	14:07:30	50.60	250
10th March, 2023	14:11:40	52.10	585
10th March, 2023	14:16:20	49.85	700
10th March, 2023	14:26:25	51.25	425
10th March, 2023	14:45:10	50.75	450
10th March, 2023	14:55:35	49.95	500

You are required to determine the closing prices and last traded prices of both the shares for 10th March, 2023.   3+(4+3)

Module - II

(Financial Engineering)

Answer *any two* questions.

5. (a) Narrate the environmental factors that contributed the growth of financial engineering.

   (b) An investor enters into 6-month forward contract of the following securities and other information of the contract is given below :

Particulars	P Ltd.	Q Ltd.
Spot price	₹ 4,500	₹ 350
Dividend expected	₹ 50	₹ 20
Dividend receivable in	2 months	3 months
6-month forward contract price	₹ 4,650	₹ 360
Risk-free interest rate (continuously compounded) p.a.	9%	9%

   (i) Compute the theoretical forward prices of the two securities.

   (ii) You are requested to offer decision on the theoretical prices based on the above point (i).

   [Given : $e^{(-0.015)} = 0.9851$; $e^{(0.045)} = 1.0461$; $e^{(-0.0225)} = 0.9775$]   4+6

6. (a) Mention the important features of a futures contract.

   (b) A wheat trader has planned to sell 4,40,000 kgs of wheat after 6 months from now. The spot price of wheat is ₹ 19 per kg and six months future on the same is trading at ₹ 18.50 per kg. Contract size is 2,000 kg. The price is expected to fall as low as ₹ 17.00 per kg six months later. What can the wheat trader do to mitigate the risk of reduced profit? If it decides to make use of future market, what would be the effective realized price for its sale when after 6 months spot is ₹ 17.50 per kg and future contract price for 6 months is ₹ 17.55 per kg?

   (c) Write brief notes on : (i) Minimum margin; (ii) Maintenance Margin, and (iii) Margin Call.
                                                                               2+5+3

Please Turn Over

7. (a) Following information relates to options of Sai Ltd. with 3 months maturity.

Exercise price (₹)	Premium for Call option (₹)	Premium for Put option (₹)
100	20	16
110	15	19
120	12	25

Create a butterfly spread using call options.

You are requested to find out payoffs of the option strategy if the spot price moves to ₹ 100, ₹ 105, ₹ 115, ₹ 125 at the end of the contract.

(b) You are given the following information about securities of two companies :

Sun Ltd. : 3-month call option is traded at ₹ 85 for an exercise price of ₹ 700 and current stock price is ₹ 650.

Moon Ltd. : 3-month put option is traded at ₹ 40 for an exercise price of ₹ 200 and current stock price is ₹ 180.

Risk-free rate of interest is 10% p.a. continuously compounded.

Find out the value of put option of Sun Ltd. and call option of Moon Ltd.

[Given : $e^{(-0.025)} = 0.975$]

(c) Discuss the role of financial intermediaries in swap arrangements.   4+3+3

8. (a) A stock is currently traded at ₹ 100. It can either go up by 20% and fall by 20% in a period of three months. If the risk-free interest rate is 8% p.a. continuously compounded, find the value of put option with an exercise price of ₹ 90 and maturity period of 6 months using risk neutral method under the Binomial Option Pricing Model for two periods.

[Given : $e^{(0.02)} = 1.0202$; $e^{(-0.02)} = 0.9802$]

(b) State the assumptions of Black-Scholes Option Pricing Model.

(c) From the following information given below, compute the gain to be shared between R Ltd. and W Ltd. in the Interest Swap arrangement.

Company	Banker	Fixed Rate	Floating Rate
R Ltd.	Axis Bank	10.00%	MIBOR – 1.00%
W Ltd.	ICICI Bank	13.00%	MIBOR + 1.00%

Intermediaries Banks is the financial intermediary charges commission of 5 basis points. Net Gain will be shared in the ratio of 3: 2 between R Ltd. and W Ltd.   4+3+3

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